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Janet Campbell, Editor

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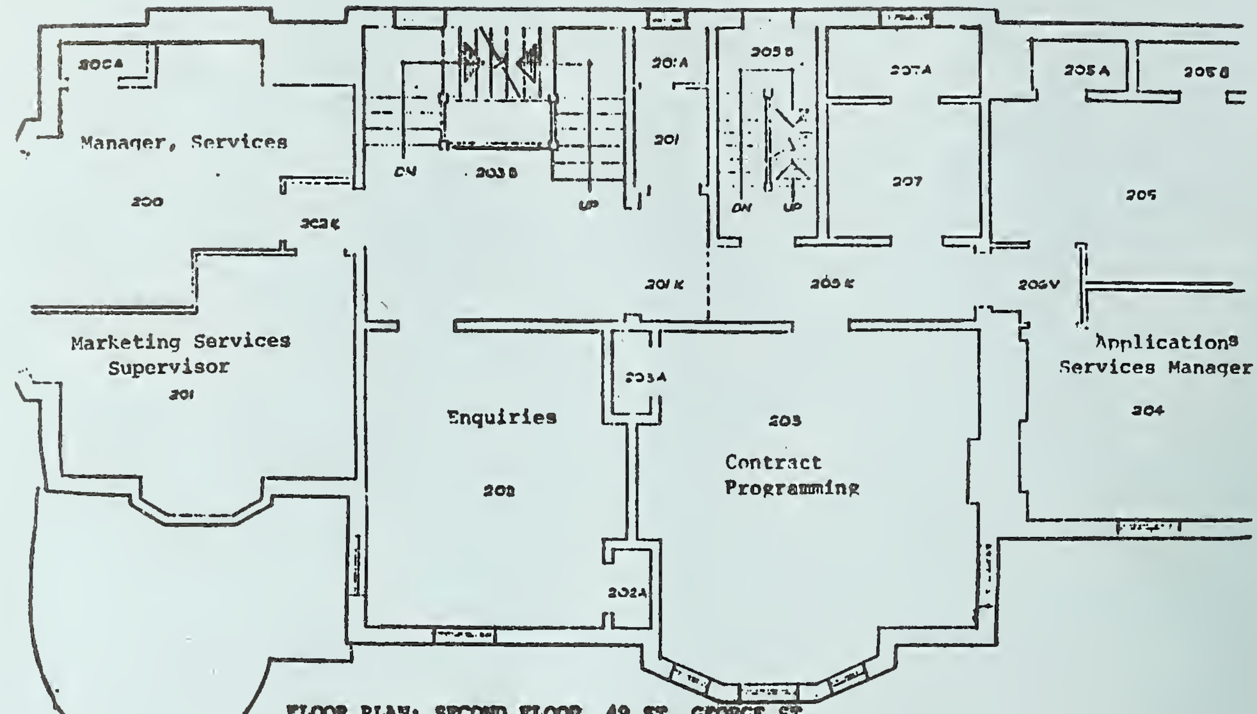
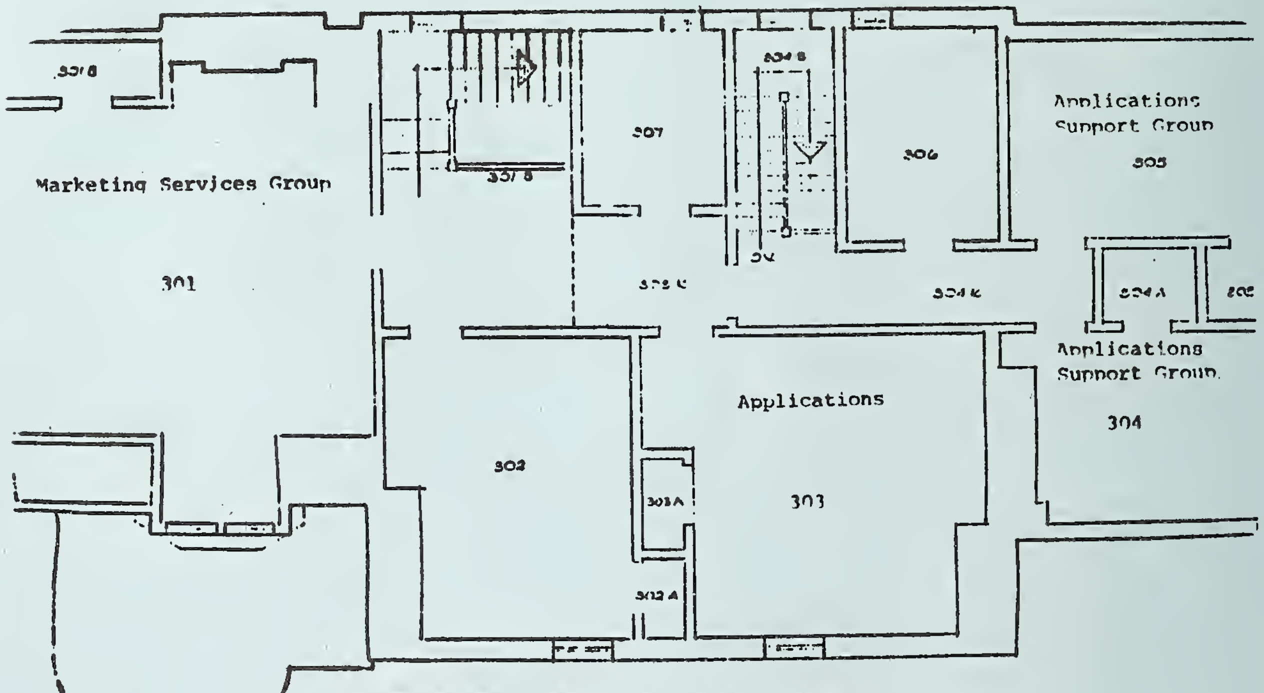


FLOOR PLAN: SECOND FLOOR, 49 ST. GEORGE ST.



FLOOR PLAN: THIRD FLOOR, 49 ST. GEORGE ST.

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S/370 SERVICES TAPE/DISK LIBRARIES

The S/370 Services Tape/Disk Libraries are featured on the February 1976 memo calendar included in this issue of COMPUTERNEWS. The Tape/Disk Libraries are located in room SF103, Sandford Fleming Building, 10 King's College Road. The Tape/Disk Library is open for business during the hours the computer is active. Sylvia May, the Tape/Disk Librarian is on duty 8 a.m. - 4 p.m., Monday to Friday and may be contacted in room SF103 or phone 928-7319.

All magnetic and paper tapes and all disks submitted to S/370 Services must be catalogued in the Tape/Disk Library prior to use.

Tape Libraries

The magnetic tape library is divided into two categories, native tapes and foreign tapes. Native tapes are owned by UTCC and may be rented by the user. Foreign tapes are owned by the user and may be stored in the library.

Requests for renting a native tape for use on the S/370-165-II should be made in person to the Computing Co-ordinator or to the Tape Disk Librarian in SF103, or by phoning the Tape Disk Librarian (928-7319). Users wishing to submit their own tapes to the library should do so at the same location. Users should be prepared to supply their Service Access Code (SAC) for accounting purposes. Note that the Service Access Code must specifically authorize the use of any tape and/or disk facilities.

Paper tapes submitted to S/370 Services must also be catalogued in SF103.

Tape Security

Users may protect their magnetic tapes from accidental overwriting by making use of the READ-ONLY tape facility. A READ-ONLY tape is stored in a red seal and the computer operators are instructed to mount it without a write-ring. To make use of this service, the user should contact the staff in SF103. A written request must be supplied to WRITE-ENABLE a READ-ONLY tape.

Tape Cleaning

A tape cleaning service for magnetic tapes is available to users in SF103. Users should be prepared to supply their Service Access Code for accounting purposes.

Disk Libraries

Three categories of disk rental/storage are available to users for the storage of data.

1. UTCC-Owned

These disks are owned by the Computer Centre and are divided into two sub-categories:

a. Work: These disks provide temporary 'scratch' work space for users' jobs. The datasets thereon are not retained for the user.

b. Rental: These packs are made available to the users through the Tape/Disk Librarian.

cont'd...

S/370 TAPE/DISK LIBRARIES Cont'd.

2. User-Owned

These disks are owned by users, but have been adopted by UTCC and are stored in the computer room at the user's request.

These disks may be placed in or removed from the computer room by arrangement with the Tape/Disk Librarian in room SF103.

3. Online Disk Storage

Users may register datasets for permanent storage. The minimum unit of rental is one track, the minimum storage period is one day. Datasets will remain permanently online until deleted by the user.

A detailed description of the automatic allocation system and all other S/370 Services tape/disk facilities appears in Chapter 3.2 of USERBOOK, the UTCC User's Reference Manual.

EDUCATION SCHEDULE

UTCC will be offering three courses during February and March. These courses are available to any person holding a Customer Account Number (CAN) or a CAN which he has been authorized to use. Note that any computing done for assignments in the courses is to be financed by the student's CAN -- class codes will not be available.

Anyone having short courses that they would like to have UTCC present to a prearranged group, should call Don Gibson at 928-5568 to arrange details. Also, UTCC has obtained several video tapes -- workbook self instruction sets on Introductory JCL and Utilities. The Mechanical Engineering Library (Galbraith Building, room 244) has agreed to library video tapes so that their video setup may be used to view the packages.

Anyone who wishes to attend any of the following courses can register in the Information Office, Sandford Fleming Building, Room 128 or call 928-4990, prior to the start of the course. Registrants should be prepared to give the CAN and CAN holder's name that they will be using for the course.

Statistical Package for the Social Sciences (SPSS)

Prerequisite:	Background in Social Science Statistics; Must hold a CAN
Dates:	Feb. 23, 24, 26
Time:	4 - 6 p.m.
Instructor:	D. Tritchler

For Social Sciences users who are, or will be, using the computer to process their data. SPSS is an applications-oriented programming language which contains powerful routines for the analysis of data while allowing the user to manipulate his data with simple FORTRAN-like statements.

Introduction to Job Control Language (JCL)

Prerequisite:	Must hold a CAN; knowledge of and experience in using a programming language.
Dates:	March 1, 3, 5
Time:	4 - 6 p.m.
Instructor:	A. Love

cont'd...

EDUCATION SCHEDULE Cont'd.

Job Control Language is the programmer's means of giving instructions and information to the Operating System. Through JCL, requests are made (e.g. memory allocation), information is given to the system (e.g. accounting and class information) and datasets are manipulated. This course is intended to present the basic statements of JCL and explain their uses. The student will be expected to access and manipulate datasets placed on the system by the instructor.

Introduction to APL

Prerequisite:	Must hold either a CAN or an APL account
Dates:	March 8, 10, 12
Times:	4 - 6 Monday 3 - 5 Wed. & Fri.
Instructor:	R. Lombardi

APL is a precise and powerful computational tool. This course is intended to provide the novice user with an introduction to interactive computing using APL (A Programming Language). A major part of the course will be spent in work sessions at the terminal.

Don Gibson

CALL FOR PAPERS

Sixth SIGCSE Technical Symposium

July 26-27, 1976
Quality Inn/Fort Magruder
Williamsburg, Virginia

The Sixth SIGCSE Technical Symposium, sponsored by the Special Interest Group for Computer Science Education of the Association for Computing Machinery, will be held at the Quality Inn/Fort Magruder, Williamsburg, Virginia, on July 26-27, 1976.

The program will include a session of invited presentations on the modifications and updating of Curriculum 68 by the ACM Curriculum Committee on Computer Sciences (C3S). Arrangements provide for workshops and evening sessions and book exhibits.

The primary focus of the program will be on contributed papers in all areas of computer science education. Papers reflecting all aspects of problems and solutions are solicited, including, but not limited to the following areas: self-paced courses; team teaching; instruction in programming structure and style; effects of centralized computing on the curriculum; evaluation of the effectiveness of instruction and faculty; computer science curriculum in minority colleges and universities; innovations in graduate and undergraduate programs in computer science; programs for community and junior colleges; and pedagogical methods and course content.

All contributed papers will be refereed and accepted papers will be published in the SIGCSE Bulletin. Three copies of the completed paper should be sent before March 1, 1976, to:

Prof. William G. Poole, Jr.
Mathematics Department
College of William and Mary
Williamsburg, Va. 23185

SCHEDULE OF FUTURE MAJOR SHARE MEETINGS

Meeting	Location	Hotel	Date
XLV	New York, New York	Hilton	8/17-22/75
XLVI	San Francisco, California	Hilton	2/22-27/76
XLVII	Montreal, Canada	Queen Elizabeth	8/15-20/76
XLVIII	Anaheim, California	Disneyland Hotel	3/6-11/77
XLVIX	Washington, D.C.	Sheraton Park & Shoreham	8/21-26/77
L	Denver, Colorado	Hilton	3/5-10/78
LI	Philadelphia, PA.	Sheraton	8/13-18/78

It should be noted that these meeting sites are tentative and are subject to change. If a change should occur in the meeting site or scheduled meeting date, ample notification will be given to SHARE members.

SCHEDULE OF FUTURE SHARE INTERIM MEETINGS

Meeting	Location	Hotel	Date
Winter '75	New Orleans, Louisiana	International	11/23-26/75
Spring '76	Phoenix, Arizona	TowneHouse	5/16-19/76
Winter '76	St. Louis, MO.	Stouffers	12/5-8/76

RECENT ACQUISITIONS IN THE DEPARTMENT OF COMPUTER SCIENCE LIBRARY

Cooper, R.H. et al.
File Processing with COBOL/WATBOL,
Second edition
Waterloo, Ont., WATFAC, 1973.

Nelson, Theodor H.
Computer Lib/Dream Machines
Chicago, Hugo's Book Service, 1974.

Schank, Roger C., and Nash-Webber,
B.L., eds.
Theoretical Issues in Natural
Language Processing.

Remote Job Entry

A UTCC-DEVELOPED RJE FACILITY HAS BEEN ADDED TO OUR LIST OF SERVICES.

- EASIER TO LEARN AND USE.
- FAST AND CONVENIENT.
- LESS COSTLY THAN OTHER RJE FACILITIES.

YOU CAN DO YOUR BATCH COMPUTING MORE CONVENIENTLY THROUGH RJE.

FOR A DEMONSTRATION CALL YOUR MARKETING SERVICES REPRESENTATIVE OR 928-6877

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TSO TOPICS

UTCC is now prepared to support TSO lines at 1200 baud on the S/370-165-II. The user must supply his own Bell 202C6 (or equivalent) modem; UTCC will provide a corresponding answering modem. The connect time charge for these lines will be double that of the current 300 baud rate.

Users wishing to take advantage of this service should contact Eugene Siciunas at 928-4967 or Ian Darwin at 928-7318.

Ian Darwin

SPEAKEASY SESSIONS: GRAPHICS FOR SPSS

KAPPA Stabilized

It was announced in last month's COMPUTERNEWS that the LAMBDA version of the SPEAKEASY processor was available for testing. The final release of this version should be installed shortly.

As a result of the acceptance of LAMBDA, the KAPPA release is being stabilized or frozen. Effective immediately, no new enhancements will be made to the KAPPA libraries. The two enhancements listed below will not be available under KAPPA, but only under LAMBDA and later releases.

Graphics

Many users of program packages such as SPSS have expressed an interest in having a facility to prepare graphical representation of their data or results. A program is now available which provides this facility using the GRAPHEASY feature of SPEAKEASY. The program transfers a few variables from an SPSS system file into SPEAKEASY named storage. SPEAKEASY has a simple-to-use graphics capability which is usable on Gould, Calcomp and (under TSO) the Tektronics terminal, as well as some basic statistical routines (which are not, however, on the same level as those in SPSS). A paper comparing the two systems is available from Ian Darwin (928-7318). The example which appears with this article shows how to use the newly added GETSPSS function to create graphics from an SPSS file. It would be more useful if the SPEAKEZ step were run under TSO since the user could then browse interactively at relationships among variables (limited by main storage constraints and cost of the session).

The present version of GETSPSS does not support the reading of SUBFILES; this will be added shortly. Details on the use of SPEAKEASY are contained in the USERBOOK module 3.3SPEAKEASY. Further information on the use of SPSS can be found in the SPSS User Guide and in 3.7SPSS. All of the above documents can be obtained from the Information Office, SF128. To get information on a specific word in SPEAKEASY, enter HELP plus the word (i.e. HELP GETSPSS) during a SPEAKEASY session.

cont'd...

SPEAKEASY SESSIONS Cont'd.

What Is In Your Keep Library?

The problem of keeping track of the contents of a SPEAKEASY KEEP library seems to grow exponentially as the library increases. One approach to the problem is to use the DOCUMENT command and the dataset DOCUMENT.TEXT (LAMBDA only). Another approach is to do a WHATIS of KEPT of each member, using LIBINDEX to get the names. The latter, however, is slow and expensive in IOWAIT time. Furthermore, the KEPT fails if any member is in card image form or is a KEPTLIST. Therefore, a LINKULE has been added to the libraries which simulates this second method. It is fast, quite efficient and does handle card image files. It is used as WHATISINDEX (libname); the short form is WHATISIN (libname). Enter HELP WHATISIN for more information. Anyone with questions or problems on SPEAKEASY should contact Ian Darwin in room 303, 49 St. George St., 928-7318.

Ian Darwin

SPEAKEASY SESSIONS

Cont'd.

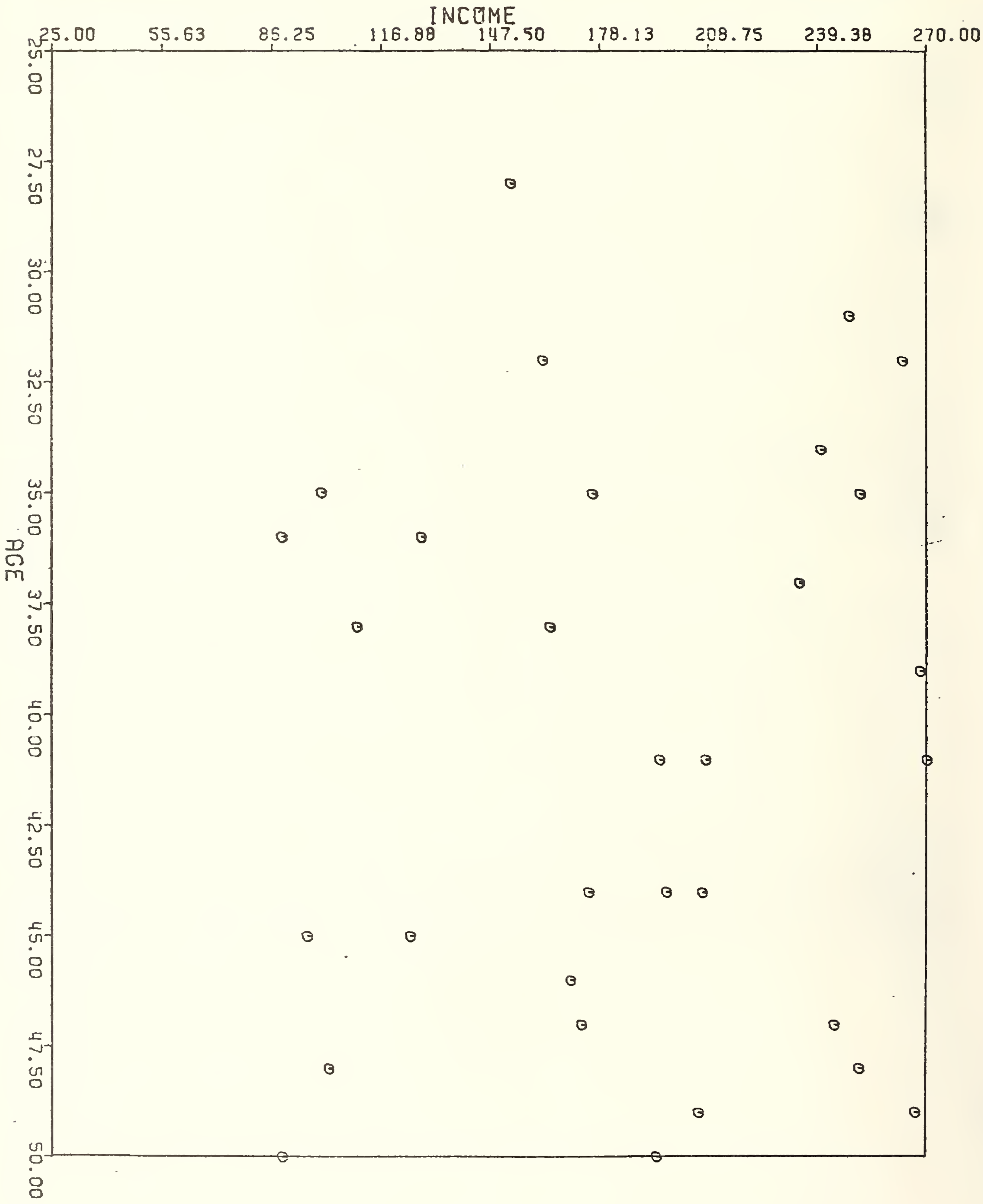
```
      SPEAKEASY 3 LAMBDA ( TEST 45 ) 11:17 AM JANUARY 26, 1976
INPUT...$
INPUT...$ THIS RUN SHOWS USE OF THE GETSPSS CONTROL WORD IN SPEAKEASY.
INPUT...$ NOTE THAT LINES BEGINNING WITH DOLLAR SIGN ARE COMMENTS.
INPUT...$
INPUT...$ INVOKE GETSPSS TO READ THE SYSTEM FILE.
INPUT...$
INPUT...GETSPSS P
      SPSS FILE NAMED CORR2 CREATED 01/23/76 HAS 13 VARIABLES.
      FILE LABEL IS
         UPDATED FILE OF DATA
      SUBFILES ARE..
      NAME      CASES
      CORR2 31
      # CASES TO READ = 31
INPUT...$
INPUT...$ PRINT NAMES OF ALL VARIABLES, THEN INVOKE SPECIAL
INPUT...$    PROGRAM TO PRINT VARIABLE LABELS.
INPUT...$
INPUT...NAMES:SPSSVPRT
        CURRENTLY DEFINED NAMES
      SPSSVARS , SPSSVLAB , SEQNUM , SUBFIL , CASWGT , AGE , SEX , MSTAT , INCOME , OCCUP , EDUC , MEMB , NME
      NOMEM , SPSSVPRT (A PROGRAM)
      EXECUTION STARTED
      AGE=PERSON'S AGE
      SEX=SEX OF PROFESSIONAL PERSON
      MSTAT=MARITAL STATUS OF PERSON
      INCOME=
      OCCUP=OCCUPATION OF INDIVIDUAL
      EDUC=LEVELS OF EDUCATION
      MEMB=# OF ORGANIZATIONAL MEMBERSHIPS
      NMEM=
      INCOMER=
      NOMEM=NO. OF PEOPLE WITH NO AFFILIATIONS
      MANUAL MODE
INPUT...$
INPUT...$ GRAPH SOMETHING
INPUT...$
INPUT...LOAD CALCOMP;CALCOMP
      CALCOMP INITIALIZED
INPUT...HSCALE=25,MAX(AGE) ; VSCALE=25,MAX(INCOME)
INPUT...PLOTSYMB(-1,1)
INPUT...GRAPH(INCOME:AGE)
INPUT...ENDDRAW
INPUT...$
INPUT...$ SHOW SOME STATISTICS
INPUT...$
INPUT...RINGS=INTS(80 270 10) ; HISTOGRAM INCOME


                         X
              XX XX      X
      XXX X   XX XX   XXXX
      XXX X  XXX XX   XXXX
      --------------------


INPUT...FREQDIST(INCOME:VAL OCC) ; TABULATE VAL OCC
        VAL   OCC      VAL   OCC
        89    2        195   1
        96    1        197   1
        100   1        206   1
        102   1        207   1
        110   1        208   1
        125   1        234   1
        128   1        240   1
        153   1        244   1
        162   1        248   1
        164   1        251   2
        170   1        263   1
        173   1        267   1
        175   1        268   1
        176   1        270   1
        194   1
INPUT...MEAN(INCOME) ; STANDDEV(INCOME) ; KURTOSIS(INCOME)
      MEAN(INCOME)  =  185.65
      STANDDEV(INCOME)  =   59.375
      KURTOSIS(INCOME) =  1.7573
INPUT...QUIT
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
       SPACE USED  6 K NOW,  6 K PEAK,  SIZE   40 K
 * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
```

SPEAKEASY SESSIONS

Cont'd.



GPJS -- SOFTWARE USAGE STATISTICS

The following chart summarizes the software usage per classified procedure and program names for the General Purpose Job Stream -- December 1, 1975 -- January 5, 1976.

SOFTWARE	USES (#JOBSTEPS)	(%)
ALGOL	92	0
APLSV	25	0
ASM	227	0
COBOL	415	1
CSMP	5	0
DATATEXT	160	0
DBUGUTIL	21	0
DISKUTIL	2,272	7
DSUTIL	4,952	15
DYNAMO	45	0
FORTRAN	9,686	30
XPSS	496	1
GRAPHICS	3,543	11
JCLUTIL	177	0
LISP	28	0
MARKEXAM	43	0
MARKIV	277	0
MPS/MPSX	332	1
OSUTIL	195	0
PAPERTAP	117	0
PL/I	3,167	9
RPG	120	0
SERVAID	288	0
SNOBOL	1,062	3
SORTMERG	813	2
SPEAKEZ	74	0
SPSS	1,874	5
SSP/BMDD	594	1
TAPEUTIL	415	1
TIPRS	9	0
TSO	55	0
XFR	319	1
TOTAL	31,898	

Kin Fong

HSJS MONTHLY STATISTICS

During the month of December 1975, 126,995 jobs were processed compared with 111,107 for the previous year, an increase of 14.3%.

The following charts summarize the HSJS activity for the month of December. The graph represents the average number of jobs processed during each half hour period of the day.

Mark Tapia

```
RESOURCE USAGE BY PROCESSOR

                                 ||        TOTAL PER PROCESSOR           ||       AVERAGE PER USE        |
                                 ||   CPU    |  #CARDS   |   #LINES      ||  CPU    |#CARDS |  #LINES    |
PROCESSOR | #USES %TOTAL||  (MIN)   |   READ    |  PRINTED      || (MIN)   | READ  | PRINTED    |
-----------------------------------------------------------------------------------------------------------
WATFIV    | 42654   (34) ||  635.72  |  7399832  |   8332340     || 0.012   |  172  |    192     |
PL/C      | 40509   (32) ||  580.32  |  7119157  |  11573201     || 0.012   |  172  |    284     |
OTHER*    | 29891   (24) ||  407.78  |  2528903  |   5158065     || 0.012   |   84  |    172     |
SPITBOL   |  4842   ( 4) ||   60.87  |  1037686  |   1522303     || 0.012   |  212  |    312     |
UTILITY   |  4692   ( 4) ||   15.97  |   851307  |   1033961     || 0.000   |  180  |    220     |
SIMON     |  1295   ( 1) ||    5.21  |    71557  |     99963     || 0.004   |   52  |     76     |
ASMG      |   910   ( 1) ||   13.25  |    97003  |    199525     || 0.012   |  104  |    216     |
PLUTO     |   733   ( 1) ||   25.48  |   220522  |    274891     || 0.031   |  300  |    372     |
ALGOLW    |   696   ( 1) ||   10.03  |   202784  |    227145     || 0.012   |  288  |    324     |
WATBOL    |   668   ( 1) ||    6.02  |   103519  |    102893     || 0.008   |  152  |    152     |
LISP      |    64   ( 0) ||    0.69  |     9262  |     15568     || 0.008   |  144  |    240     |
ASSIST    |    37   ( 0) ||    0.51  |     4223  |      6189     || 0.012   |  112  |    164     |
-----------------------------------------------------------------------------------------------------------
TOTAL       126931         || 1761.87  | 19645755  |  28546044     || 0.014   |  154  |    224     |

*SP/K, SPSSO and SNAP
```

```
ALL TERMINALS                                              JOB VOLUME FOR 01/12/75 - 31/12/75
CLASS = W                                                       (AVERAGE OVER 29 DAYS)

                                                     # JOBS WHICH BEGAN EXECUTION AT INDICATED TIME
                                       25   50   75  100  125  150  175  200  225  250  275  300  325  350  375  400  425  450  475  500
                         |#JOBS|TOD|----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+
                         |   43|   |66666666
PROCESSOR #USES    %     |   50|   |6666666666
WATFIV    42654 (33)     |   48|  1|666666666
PL/C      40509 (31)     |   44|   |66666666
OTHER*    29991 (23)     |   40|  2|66666666
SPITBOL    4942 ( 3)     |   35|   |6666666
UTILITY    4692 ( 3)     |   32|  3|666666
SIMON      1295 ( 1)     |   28|   |66666
ASMG        910 ( 0)     |   27|  4|66666
PLUTO       733 ( 0)     |   22|   |6666
ALGOLW      696 ( 0)     |   20|  5|6666
WATBOL      668 ( 0)     |   27|   |66666
LISP         64 ( 0)     |    4|  6|
OTHER         0 ( 0)     |    2|   |
                         |    0|  7|
                         |    1|   |
                         |   28|  8|66666
                         |   51|   |6666666666
                         |   76|  9|666666666666666
                         |  101|   |66666666666666666666
                         |  114| 10|6666666666666666666666
                         |  144|   |6666666666666666666666666666
                         |  161| 11|66666666666666666666666666666666
                         |  177|   |66666666666666666666666666666666666
                         |  171| 12|6666666666666666666666666666666666
                         |  173|   |6666666666666666666666666666666666
                         |  190| 13|66666666666666666666666666666666666666
                         |  187|   |6666666666666666666666666666666666666
                         |  204| 14|6666666666666666666666666666666666666666
                         |  212|   |666666666666666666666666666666666666666666
                         |  210| 15|666666666666666666666666666666666666666666
                         |  216|   |6666666666666666666666666666666666666666666
                         |  202| 16|6666666666666666666666666666666666666666
                         |  196|   |666666666666666666666666666666666666666
                         |  153| 17|666666666666666666666666666666
                         |  149|   |66666666666666666666666666666
                         |  101| 18|66666666666666666666
                         |  102|   |66666666666666666666
                         |  103| 19|66666666666666666666
                         |  101|   |66666666666666666666
                         |  100| 20|66666666666666666666
                         |   96|   |6666666666666666666
                         |   94| 21|666666666666666666
                         |  101|   |66666666666666666666
SHIFT   #JOBS            |   10| 22|66
0 - 9   12492            |    4|   |
8 - 4   70229            |    4| 23|
4 - 12  44270            |    3|   |
                          4379|   | 8-SERVICE FACTOR(2.0) || 6-SERVICE FACTOR(1.0) || 4-SERVICE FACTOR(.75)

TOTAL JOBS AT SP .75  (UNAVERAGED)      0
TOTAL JOBS AT SP 1.0  (UNAVERAGED) 126991          *SP/K, SPSSQ and SNAP
TOTAL JOBS AT SP 2.0  (UNAVERAGED|      0
TOTAL JOBS AT ALL SP  (UNAVERAGED) 126991
```

S/370-165-II RELIABILITY

The reliability statistics for December indicate an uptime percentage of 99.4 while the average number of unscheduled IPL's per day reached 0.48. The number of scheduled hours of production for December totalled 437.

The average % uptime and unscheduled IPL's for the year 1975 was 97.3 and 1.1 respectively.

MONTHLY COMPARATIVE FIGURES

MONTH	% UPTIME	UNSCHED. IPLs/DAY
Sep/74	94.5	1.83
Oct/74	98.6	1.07
Nov/74	98.9	0.93
Dec/74	97.1	1.21
Jan/75	95.7	2.77
Feb/75	96.0	1.14
Mar/75	96.7	1.10
Apr/75	98.6	0.70
May/75	99.4	0.60
Jun/75	97.4	0.79
Jul/75	95.2	1.23
Aug/75	97.6	0.83
Sep/75	99.1	0.87
Oct/75	97.2	1.13
Nov/75	95.8	1.63
Dec/75	99.4	0.48

The percentage breakdown of total system downtime for December was:

Hardware: 60 minutes (35.5%)
Software: 81 minutes (47.9%)
Other : 28 minutes (16.6%)

The major events contributing to these downtime totals were as follows:

December 12 - 71 minutes down - 3 IPLs

a. 60 minutes charged to the system looping on channel 3. ITEL corrective maintenance replaced a faulty card in the 7830 controller.

b. 10 minutes due to a user job causing the system to go into a SUPERVISOR LOOP while plotting the GOULD.

Paul Scarborough

```
                    DOWNTIME_REPORT_ON___S/370__FOR_DEC_75

-----------------------------------------------------------------------------------------------------------------------------
|                                                 REIPLS(FREQ) // DOWNTIME (MN)                                              |
| DAY  REIPL    DNTIME 0    5    10   15   20   25   30   35   40   45   50   55   60   65   70   75   80   85   90   95   100|
=======================+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+|
| M  1     0       0   |                                                                                                     |
| T  2     0       7   |*******                                                                                              |
| W  3     1       7   |☐******                                                                                              |
| T  4     2      14   |☐☐************                                                                                       |
| F  5     1       5   |☐****                                                                                                |
| S  6     0       0   |                                                                                                     |
| S  7     1      10   |☐*********                                                                                           |
| M  8     0       0   |                                                                                                     |
| T  9     0       0   |                                                                                                     |
| W 10     1      13   |☐************                                                                                        |
| T 11     0       0   |                                                                                                     |
| F 12     1       7   |☐******                                                                                              |
| S 13     0       0   |                                                                                                     |
| S 14     1       6   |☐*****                                                                                               |
| M 15     3      71   |☐☐☐********************************************************************                              |
| T 16     1      16   |☐***************                                                                                     |
| W 17     0       0   |                                                                                                     |
| T 18     0       0   |                                                                                                     |
| F 19     0       0   |                                                                                                     |
| S 20     0       0   |                                                                                                     |
| S 21     0       0   |                                                                                                     |
| M 22     1       6   |☐*****                                                                                               |
| T 23     0       0   |                                                                                                     |
| W 24     0       0   |                                                                                                     |
| T 25 (CENTER CLOSED) |                                                                                                     |
| F 26 (CENTER CLOSED) |                                                                                                     |
| S 27     0       0   |                                                                                                     |
| S 28     0       0   |                                                                                                     |
| M 29     0       0   |                                                                                                     |
| T 30     0       0   |                                                                                                     |
| W 31     1       7   |☐******                                                                                              |
-----------------------------------------------------------------------------------------------------------------------------


LEGEND          : ONE ☐  =ONE UNSCHED. IPL
                  ONE *  =ONE MINUTE OF DOWNTIME



                         TOTAL SCHEDULED HOURS OF PRODUCTION :  437
                         TOTAL DOWNTIME (MN)  :  109 , AVG/DAY :   5.83 , AVG/PROD HOUR :   0.19
                         TOTAL UNSCHED. IPL'S :   14 , AVG/DAY  :   0.48
                         DOWNTIME RATE IS     :  0.64 PERCENT OF SCHEDULED PRODUCTION HOURS
```

INTERACTIVE SYSTEMS RELIABILITY

The uptimes achieved for the month of December for each of APL and ATS were 98.09% and 98.14% respectively. The number of scheduled hours of operation during the month of December totalled 397, while the number of unscheduled IPL's per day was 0.21. In addition to the scheduled time, Interactive Services were also available for approximately 196 hours of unattended weekend/holiday operation.

The breakdown of total system downtime for December was: Hardware - 390 minutes (89.04%); Software - 38 minutes (8.68%); Other - 10 minutes (2.28%). Six unscheduled IPL's was required as a result of the failures. The major events contributing to downtime were the following:

Dec 14: CPU entered solid system state and all attempts to Re-IPL failed. Eventually the problem was isolated and a defective card in the CPU at location 01A - D1L6 was replaced.

Dec 16: An IPL was required when the operator entered a d u, DASD command, which resulted in E04 abend in the 1052 communication link.

Later an interface control check (ROS parity) caused terminals to lock and there was no further response from any teleprocessing lines.

Dec 28: CPU entered solid system state and indicated process check caused by LCS. IBM customer engineer was notified but the problem disappeared after switching LCS offline.

Dec 29: (a) Process check light came on during unattended operation indicating a key mismatch on a store operation.

(b) CPU entered twice into a solid loop and in both cases operator was unable to INSN step. Second loop was an unconditional branch to itself and was caused by storage address error in LCS.

The following table summarizes the time lost out of scheduled hours of production due to system failures for both systems.

Kam Jain

DATE	DOWNTIME (mins)		REASON
	APL	ATS	
Tue. Dec. 2	18	-	APL File Subsystem clobbered (SOFTWARE)
Sun. Dec. 14	125	125	Defective card in CPU (HARDWARE)
Mon. Dec. 15	10	10	*Replace card in CPU (HARDWARE)
Tue. Dec. 16	18	18	*Out of SQA - E04 abend (SOFTWARE)
"	18	18	*Interface control check (HARDWARE)
Wed. Dec. 17	-	4	ATS abend - Program check (SOFTWARE)
Fri. Dec. 19	20	20	*System error - induced by system programmer
Sun. Dec. 28	120	120	Process check caused by LCS (HARDWARE)
Mon. Dec. 29	117	117	*Process check *Storage address error (HARDWARE)
Tue. Dec. 30	10	10	IBM maintenance overlapped into production hours
Total	456	442	*IPL Required

System Failures December 1 - 31, 1975

NEW SHARP APL PUBLIC LIBRARY CATALOG SYSTEM

DATATALK services has recently made available the new SHARP APL Public Library Catalog System.

The system is noteworthy in two respects:

1. The catalog classifies the entire system of SHARP APL Public Libraries into 21 application areas.
2. The entire catalog may be accessed by loading only one APL workspace:

```
)LOAD 1 WSINDEX
```

The catalog allows the user to list in a convenient page format all the abstract, describe and function how variables for any of the APL workspaces adhering to any of the application areas that may be of interest to him.

For more details:

```
)LOAD 1 WSINDEX
```

and display the variable

```
CATALOGHOW
```

NEW SHARP APL TO APLSV WORKSPACE TRANSFER FACILITY

The new SHARP APL workspace 4 WSTRANS provides a facility to transfer workspaces from the SHARP APL system on the S/360-65 to APLSV on the S/370-165-II.

The only prerequisites for the use of the workspace transfer facility are a SHARP APL file reservation sufficient to create a temporary transfer file containing the workspace contents (locked functions excepted), a valid S/370 Service Access Code and access to the shared variable facility of APLSV.

cont'd...

SHARP APL TO APLSV WORKSPACE TRANSFER FACILITY Cont'd.

The workspace transfer facility is extremely straightforward to use and requires no familiarity with OS, JCL or even SHARP APL files.

Documentation for the facility is contained in the variables DESCRIBE and TRANSGHOW in the workspace 4 WSTRANS or get pages 22 and 23 from Section 4 of the catalog facility.

NEW DATATALK APL DEMO: SOME APL FOR FORECASTERS

A new DATATALK APL DEMO is the third in a series of APL notes intent demonstrating the application of APL to the solution of real problems, is now available in the Information Office, SF128.

'APL DEMO: SOME APL FOR FORECASTERS', includes an example of the development of a sales forecasting model using the facility of the new APL workspace '70 SALES'.

Contents include:

1. A discussion of general polynomial smoothing by centred moving averages. This is the main technique of the classical analysis of discrete economic time series based on simple trend plus seasonal adjustment models.

2. Calculation of the table of coefficients of error reducing power of centred moving average smoothing.

3. Trend analysis and calculation of the seasonal adjustment for a complete 42 month series of sales data.

4. Practical forecasting.

The APL DEMO has an appendix listing the detailed online documentation available for the WS 70 SALES.

The following APL DEMO's are now available free of charge, at the UTCC Information Office, Room 128, Sandford Fleming Building: now include:

APL DEMO: SOME APL FOR FORECASTERS (January, 1976)
APL DEMO: COGO (September, 1975)
APL DEMO: DESCRIPTIVE STATISTICS (October, 1975)

DATATALK DIALOGUES: SOME PLAIN TALK ON STUDENT'S T-TEST

There at least 4 different kinds of statistical T-TESTS. There are 8 if the one-sided versions are included and 9 if nonparametric tests, such as the MANN-WHITNEY U-TEST, are also considered.

There are, in fact, at least 18 different kinds of statistical T-TESTS if some of today's modifications of the classical tests are considered and, moreover, physicists, chemists and bio-chemists generally know them all by 3 different names.

Therefore, DATATALK is familiar with about 54 different kinds of statistical T-TESTS.

For example, I've got paired data, there's a control group and a treatment group and I'm expecting a difference in the means....

```
    )LOAD 100 TTEST

    Z←X TTEST1 Y

NUMBER OF PAIRS                           10
DEGREES OF FREEDOM                        9
MEANS                                     378.2    416.8
POOLED VARIANCE                           53.782
POOLED STANDARD DEVIATION                 7.3336
POOLED STANDARD ERROR OF MEAN             7.3336
PAIRED SAMPLE                  T-VALUE =  5.2634
```

Is that significant at an engineer's 5 per cent?

Well, yes it is because

```
    9 STUDENT 1-0.5×0.05     (5 PER CENT LEVEL)
2.2628
```

and in fact, the difference is significant at a bio-chemist's 0.1 per cent since the T-Value exceeds

```
    9 STUDENT 1-0.5×0.001   (0.1 PER CENT LEVEL)
4.7799
```

What if I have a sample of 20 with a mean of 1832 and a calculated standard deviation of 497 and also a sample of 30 with a mean of 1261 and a standard deviation of 501.

Can I be confident that the means are different with a probability of less than 0.1 per cent of error....?

```
    Z←20 1832 497 TT 30 1261 501
DF      48
T-VALUE 3.8807

    48 STUDENT 1-0.5×0.001
3.5053
```

Yes you can!

Let's take one more case. This one is a little trickier than the others.

I've got 6 measurements of PH and it's important that the PH of my solution actually be 8.30.

Can I be fairly certain that this is the case....?

```
    PH
8.29   8.3   8.31   8.3   8.32   8.34

THE MEAN OF THE SAMPLE IS
    M←(+/PH)÷ρPH
    M
8.31

AND THE STANDARD DEVIATION IS
    SD←SD+.×SD←PH-M
    SD←(SD÷5)*0.5
    SD
0.017889

THE COMPUTED T-VALUE IS THEN
    T←((M-8.30)÷SD)×6*0.5
    T
1.3693

AND THAT IS TO BE COMPARED WITH
    TP←5 STUDENT 1-0.5×0.001  (0.1 PER CENT LEVEL)
    TP
6.8353

THAT MEANS THEN THAT I CAN CONCLUDE (ON THE BASIS OF STATISTICS)
THAT MY PH VALUE IS BETWEEN
    M-TP×SD÷6*0.5
8.2601
AND
    M+TP×SD÷6*0.5
8.3599
```

cont'd...

DATATALK DIALOGUES Cont'd.

But...that's not really good enough because even though the difference of the means is not significant by the test, the same test will only establish a relatively large interval in which the mean could be and still not be counted as significantly different from the value 8.30!

If computations like these have been of interest to you, then please do not hesitate to call DATATALK services, 928-6710, 10 a.m. - 10 p.m. every weekday.

In addition, more information on statistical computation in APL is available in the APL Demo: Descriptive Statistics, available free of charge from the UTCC Information Office. A complete listing of the online documentation for the APL WS 100 T-TEST may be obtained from the catalogue by getting pages 31 to 33 of Section 11.

Ernst Goetze

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CTOR		
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NOTE:

SF = Sandford Fleming
SG = 49 St. George
NP = McLennan Physical (New Physics)
SS = Sydney Smith

JOB AND SYSTEM STATUS QUERIES

SYSTEM/370, TSO	7373
ATS/APL	6234
7094	7094
2741 TERMINAL MALFUNCTIONS	7107
029 KEYPUNCH MALFUNCTIONS	6465

SERVICES

	DIAL-UP	ADVICE
APL - 2741	7200	6710
APL(ASCII)	7200	7107
APL SV - 2741	7239	6710
APL SV - TTY	7447	6710
ATS	7100	7107
TSO - 2741	7303	8599
TSO - TTY (10 cps)	7390	8599
TSO - TTY (30 cps)	7386	8599
DATATALK	6710	6710

UTCC COMPUTER EQUIPMENT

SYSTEM/370 MODEL 165-II

- located in SF103/105/112
- provides General Purpose Job Stream, High Speed Job Stream, APL, SV and TSO services
- 3072K bytes of memory
- 1 drum (2301)
- 13 disk drives (3330)
- 8 disk drives (2314)
- 7 magnetic tape drives (5 9-track and 2 7-track)
- 6 display consoles
- 6 printers
- 5 card readers
- 1 card punch
- 8 remote batch terminals
- 1 paper tape reader
- Calcomp plotters (11" and 30")
- Gould plotter (11")
- OS/MVT with HASP

SYSTEM/360 MODEL 65

- located in McLennan Physical Laboratories
- provides APL and ATS services
- 1536K bytes of core
- 24 disk drives (2314)
- 3 9-track magnetic tape drives
- 1 printer
- 1 card reader
- 1 card punch
- 140 typewriter terminals
- OS/MVT with APL and ATS

7094 II

- located in Room 1203 Burton Tower
- 32K words of core
- 1 disk
- 8 magnetic tape drives
- input/output via a 1401 computer

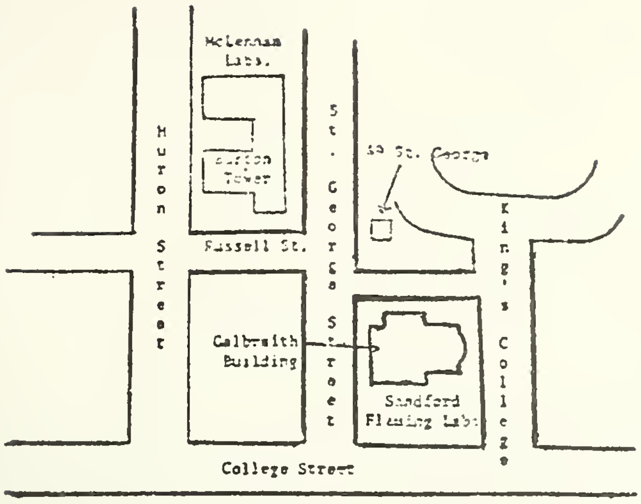
COMPUTER RESEARCH FACILITY

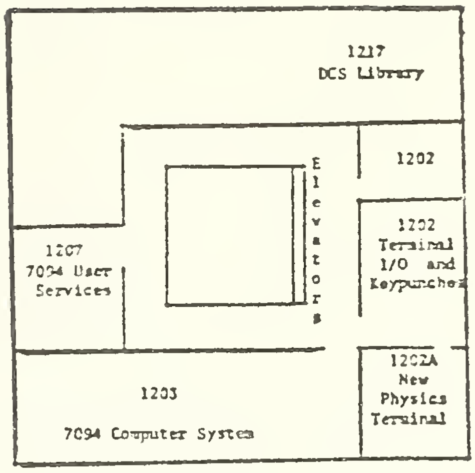
- located in SF207
- DEC GT44 Systems with
  - 1 PDP-11/40 CPU
  - 2 9-track dual density tape drives
  - 1 1000 cpm card reader
  - VT17 graphics display unit
  - 1 lab. peripheral system with A/D & D/A
  - 1 CVI 260 Video Bandwidth Compressor
- DEC GT40 System with
  - 1 PDP-11/10 CPU
  - 1 2314 tape disk drive
  - 1 VT12 graphic display unit
  - 9-track/800 BPI tape drive
  - 1 Calcomp microfilm plotter

S/370 Services tape/disk libraries

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 29	2	3	4	5	6	7
8	9	10	11	12 TECHNICAL SYMPOSIUM ON COMPUTER SCIENCE & EDUCATION, ANAHEIM CALIFORNIA	13	14
15	16	17	18	19	20	21
22 SHARE XLVI SAN FRANCISCO, CALIFORNIA	23 UTCC NON-CREDIT COURSE INTRO TO SPSS 4-6 PM	24	25	26 INTRO TO SPSS 4-6 PM	27	28

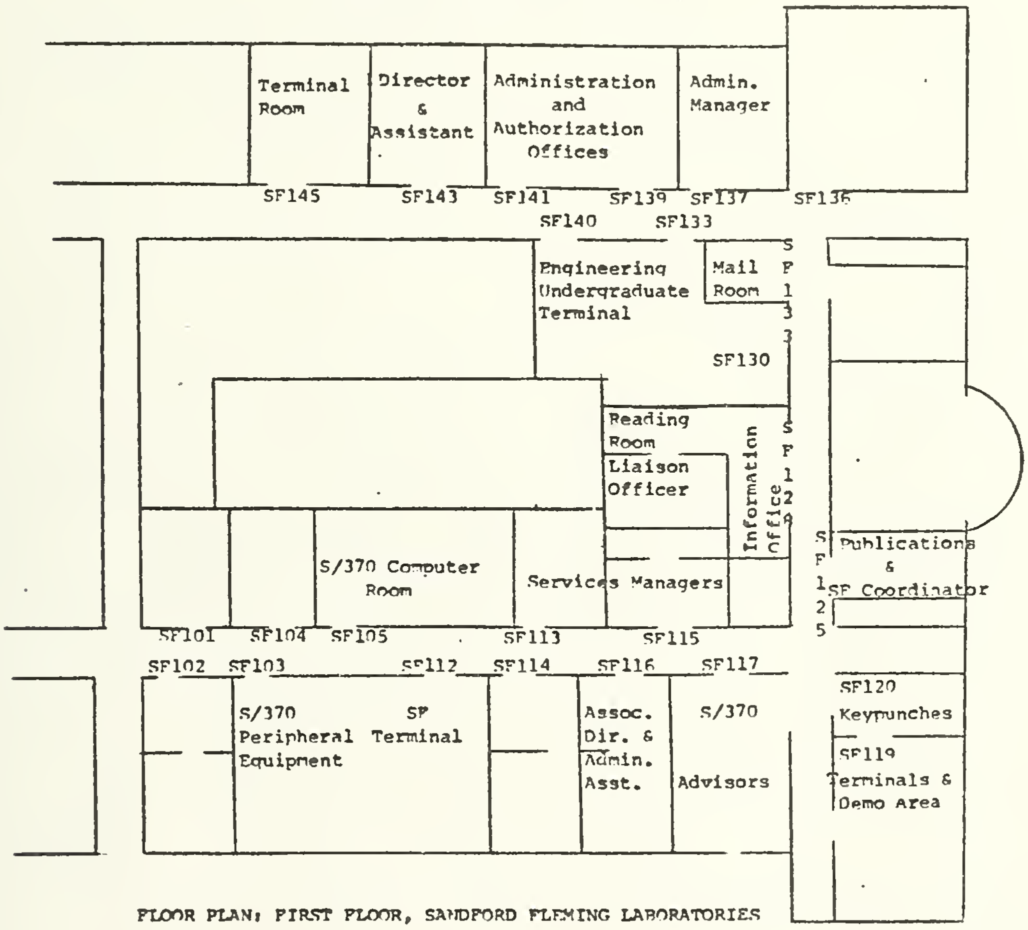
February 1976



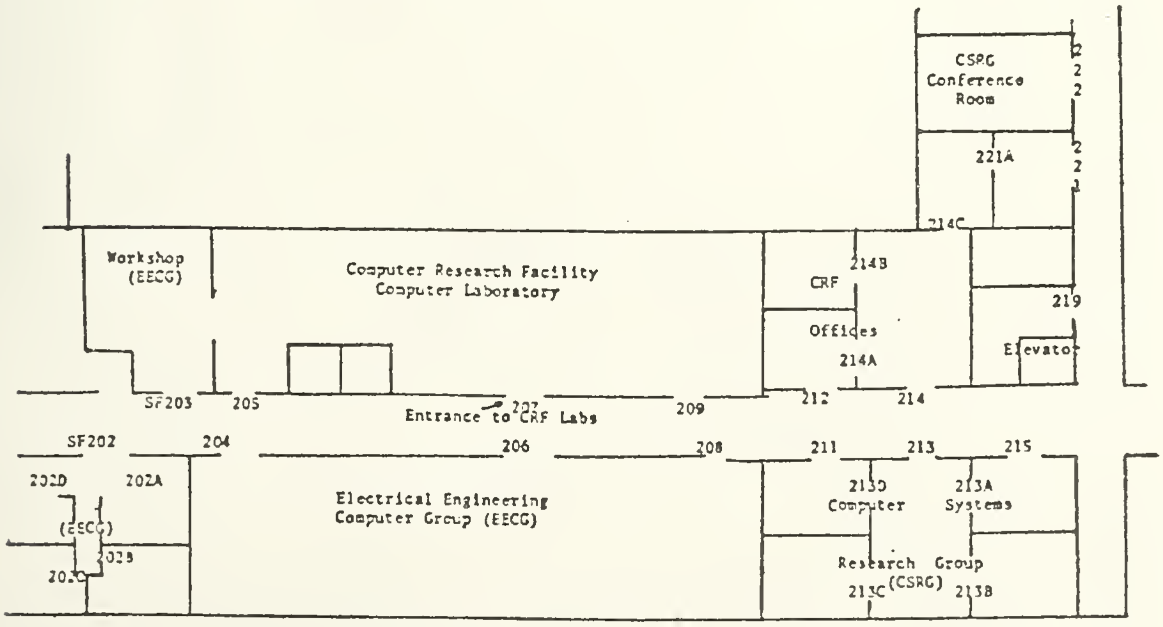


FLOOR PLAN: TWELFTH FLOOR, BURTON TOWER

UNIVERSITY OF TORONTO COMPUTER CENTRE



FLOOR PLAN: FIRST FLOOR, SANDFORD FLEMING LABORATORIES



FLOOR PLAN: SECOND FLOOR, SANDFORD FLEMING LABORATORIES

UNIVERSITY OF TORONTO
COMPUTER CENTRE,
TORONTO, CANADA,